

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claims 1-8 are pending in the present application. Claim 1 is independent. The remaining claims depend, directly or indirectly, from claim 1.

Claim Amendments

Independent claim 1 has been amended by way of this reply to correct minor errors and to clarify that the first connector latchingly engages with the latch element and to clarify insertion directions of the latch element and the second end portion of the cantilevered flexible portion. No new matter has been added by way of these amendments, as support for these amendments may be found, for example, in paragraph [0029] and in Figure 1 of the Publication of the present application. Additionally, claims 2 and 9 have been amended to correspond to amendments made to claim 1. No new matter has been added by way of these amendments.

Rejection(s) under 35 U.S.C. § 102**Claims 1-9**

Claims 1-9 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,190,467 issued to Ohta (hereinafter “Ohta”). Independent claim 1 has been amended in this reply to clarify the present invention recited. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

The present invention is directed to an electrical connector assembly comprising a first connector element 11, a second connector element 12, and a latch element 13. As seen with

respect to Figures 1 and 2 of the Specification, latch element 13 is inserted into opening 16 of first connector element 11 in a direction that is orthogonal to an insertion (mating) direction of second connector element 12 with first connector element 11. This allows first connector element 11 to latchingly engage with latch element 13 (*see, e.g.*, Publication of the Specification, paragraph [0035]).

As seen with respect to Figure 3 of the Specification, when second connector element 12 is inserted in first connector element 11, cantilevered flexible portion 24 of latch element 13 contacts second connector element 12, and is deflected such that the flexible free end of cantilevered flexible portion 24 moves in a direction that is orthogonal to the insertion direction of latch element 13 and orthogonal to the insertion direction of second connector element 12 (*see, e.g.*, Publication of the Specification, paragraph [0035]).

Accordingly, amended independent claim 1 requires that when the latch element is inserted in an opening formed in the first connector element in a direction orthogonal to an insertion/mating direction of the second connector element, the second end portion of the cantilevered flexible portion is mated with and latchingly engaged with the first connector element. Amended independent claim 1 further requires that when the second connector element is inserted in and mated with the first connector element, which latchingly engages with the latch element, the cantilevered flexible portion contacts the second connector element and is deflected to force the second end portion of the cantilevered flexible portion to move in a direction orthogonal to an insertion direction of the latch element and orthogonal to the insertion/mating direction of the second connector element.

Ohta, in contrast to the present invention, does not disclose that the latch element inserts in a direction orthogonal to an insertion/mating direction of the second connector element and that the second end portion of the cantilevered flexible portion moves in a direction

orthogonal to the insertion direction of the latch element and orthogonal to the insertion/mating direction of the second connector element. Ohta is directed to mating connector housings, where one of the connector housings A has a locking arm 1 with grooves 5 and the other connector housing B has an engagement sleeve 4 that receives locking arm 1 (*see* Ohta, abstract). The connector housings of Ohta are designed to prevent the weak portion of the connector housing A formed with locking arm 1 from being deformed (*see* Ohta, col. 2, lines 59-62).

As is evident from Figures 1 and 2 of Ohta, locking arm 1 is a part of connector housing A, and thus is inserted into connector housing B in the same direction and at the same time as connector housing A. It would be abundantly clear to one skilled in the art that Ohta does not contemplate a latch element as disclosed by the present invention. Further, it would be clear to one skilled in the art that Ohta does not disclose an end portion of a cantilevered flexible portion of a latch element that moves in a direction orthogonal to an insertion direction of the latch element and orthogonal to the insertion/mating direction of the second connector element, where the insertion direction of the latch element is orthogonal to the insertion/mating direction of the second connector element.

In view of the above, Ohta fails to show or suggest the present invention as recited in amended independent claim 1. Thus, amended independent claim 1 is patentable over Ohta. Dependent claims 2-9 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 1

Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,433,888 issued to Winger (hereinafter “Winger”). Independent claim 1 has been amended in this reply to clarify the present invention recited. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

As discussed above, the present invention is directed to an electrical connector assembly. Further, as discussed above, amended independent claim 1 requires that when the latch element is inserted in an opening formed in the first connector element in a direction orthogonal to an insertion/mating direction of the second connector element, the second end portion of the cantilevered flexible portion is mated with and latchingly engaged with the first connector element. Amended independent claim 1 further requires that when the second connector element is inserted in and mated with the first connector element, which latchingly engages with the latch element, the cantilevered flexible portion contacts the second connector element and is deflected to force the second end portion of the cantilevered flexible portion to move in a direction orthogonal to an insertion direction of the latch element and orthogonal to the insertion/mating direction of the second connector element.

Winger, as discussed above with reference to Ohta, does not disclose a latch element as required by the claimed invention. Further, Winger does not disclose that the latch element inserts in a direction orthogonal to an insertion/mating direction of the second connector element and that the second end portion of the cantilevered flexible portion moves in a direction orthogonal to the insertion direction of the latch element and orthogonal to the insertion/mating direction of the second connector element.

Winger, in contrast to the present invention, is directed to a printed circuit edgeboard connector **10** that is connected to miniature printed circuit board plug **12** (*see* Winger, abstract). As shown with respect to Figure 1 of Winger, Winger discloses a flexible lock arm **52** of multi-function lock **20** that inserts into the conductor end of connector body **14** and latches with notch **78** to prevent withdrawal of terminals (*see* Winger, col. 2, line 67 – col. 3, line 11; col. 3, lines 33-42). As is clear from the above discussion of Winger, multi-function lock **20** inserts axially into the conductor end of connector body **14**. Connector **10** connects to circuit board plug **12** in

the same axial direction. It would be abundantly clear to one skilled in the art that Winger does not disclose that flexible lock arm 52 of multi-function lock 20 is inserted in an opening formed in connector body 14 in a direction that is *orthogonal* to an insertion direction of printed circuit board plug 12. Further, Winger does not disclose that a portion of multi-function lock 20 moves in a direction orthogonal to the insertion direction of the multi-function lock 20 *and* orthogonal to the insertion direction of the circuit board plug 12.

In view of the above, Winger fails to show or suggest the present invention as recited in amended independent claim 1. Thus, amended independent claim 1 is patentable over Winger. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 1

Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,657,331 issued to Coldren (hereinafter “Coldren”). Independent claim 1 has been amended in this reply to clarify the present invention recited. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

As discussed above, the present invention is directed to an electrical connector assembly. Further, as discussed above, amended independent claim 1 requires that when the latch element is inserted in an opening formed in the first connector element in a direction orthogonal to an insertion/mating direction of the second connector element, the second end portion of the cantilevered flexible portion is mated with and latchingly engaged with the first connector element. Amended independent claim 1 further requires that when the second connector element is inserted in and mated with the first connector element, which latchingly engages with the latch element, the cantilevered flexible portion contacts the second connector element and is deflected to force the second end portion of the cantilevered flexible portion to

move in a direction orthogonal to an insertion direction of the latch element and orthogonal to the insertion/mating direction of the second connector element.

Coldren, like Ohta and Winger, does not disclose a latch element as required by the claimed invention. Further, Coldren does not disclose that the latch element inserts in an opening of the first connector element in a direction orthogonal to an insertion/mating direction of the second connector element and that the second end portion of the cantilevered flexible portion moves in a direction orthogonal to the insertion direction of the latch element and orthogonal to the insertion/mating direction of the second connector element.

Coldren is directed to a strain relief member **40** having a latching arm **43** that extends in an axial direction of strain relief member **40** and of connectors **11'**, **12'** (see Coldren, Figure 2, abstract). It would be clear to one skilled in the art that the connector assembly of Coldren does not have a latch element that inserts into an opening formed in either of connectors **11'**, **12'** in a direction orthogonal to an insertion/mating direction of either of connectors **11'**, **12'**. Further, as discussed above with reference to Ohta and Winger, as Coldren discloses the strain relief member **40** attaching to connectors **11'**, **12'** in an axial direction, Coldren cannot disclose a portion of strain relief member **40** moving in a direction that is orthogonal to an insertion direction of strain relief member **40** and orthogonal to the insertion direction of the either of connectors **11'**, **12'**.

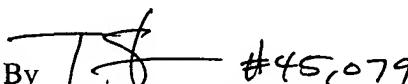
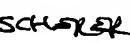
In view of the above, Coldren fails to show or suggest the present invention as recited in amended independent claim 1. Thus, amended independent claim 1 is patentable over Coldren. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 07700/045001).

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Respectfully submitted,

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